PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 29 May 2000 (29.05.00)	
International application No. PCT/IB99/01723	**Applicant's or agent's file reference** F14633/GV
International filing date (day/month/year) 21 October 1999 (21.10.99)	**Priority date** (day/month/year) 23 October 1998 (23.10.98)
Applicant CASS, Leslie, John	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

25 April 2000 (25.04.00)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer Juan Cruz
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

Form PCT/IB/331 (July 1992)

IB9901723

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
F14633/GV		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/IB 99/01723	21/10/1999	23/10/1998
Applicant		
CASS, LESLIE, JOHN		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   [ ] contained in the international application in written form.

   [ ] filed together with the international application in computer readable form.

   [ ] furnished subsequently to this Authority in written form.

   [ ] furnished subsequently to this Authority in computer readble form.

   [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [X] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

   [ ] the text is approved as submitted by the applicant.

   [X] the text has been established by this Authority to read as follows:

   VEHICLE IDENTIFICATION SYSTEM

5. With regard to the **abstract,**

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

   [X] as suggested by the applicant.

   [ ] because the applicant failed to suggest a figure.

   [ ] because this figure better characterizes the invention.

   [ ] None of the figures.

INTERNATIONAL SEARCH REPORT

Inte[redacted]al application No.
PCT/IB 99/01723

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 29-31
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
The claims 29-31 are not clear. See PCT article 6.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 99/01723

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: G07C 1/30, G07F 17/24
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: G07C, G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0193320 A2 (ELECSELL LIMITED), 3 Sept 1986 (03.09.86), whole document, see especially figure 3 and page 17 line 12 - line 14 --	1-13,15-21
X	WO 9830982 A1 (MODUL-SYSTEM SWEDEN AB), 16 July 1998 (16.07.98), whole document --	1,8,9,11-13, 15,18,20-22, 25
X	US 5745052 A (MATSUYAMA ET AL), 28 April 1998 (28.04.98), column 6, line 8 - line 10, abstract --	4-8,14,16, 20,25-27

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 January 2000	21 02 2000
Name and mailing address of the International Searching Authority European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel(+31-70)340-2040, Tx 31 651 epo nl, Fax(+31-70)340-3016	Authorized officer Gunilla Jonsson / JA A Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 99/01723

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SE 507381 C2 (ROLF RISING), 25 May 1998 (25.05.98), page 5, line 17 - line 27	1,10-13,15, 18,20-26,28
X	WO 9627170 A1 (PARKIT OY), 6 Sept 1996 (06.09.96), page 7, line 30 - page 9, line 15	4-6,8-11, 15-17,21-23, 26,28
X	WO 9611453 A1 (PARKIT OY), 18 April 1996 (18.04.96), page 4, line 15 - page 5, line 19, figure 2	1,4,9,11-13, 15-18,21,22, 26,28
A	WO 9719568 A1 (VAZVAN, BEHRUZ), 29 May 1997 (29.05.97), page 2, line 26 - line 35	1,18,21-23, 26,28
A	WO 9320539 A1 (JONSSON, TOMMY), 14 October 1993 (14.10.93), page 4, line 21 - line 25	25
A	EP 0523742 A2 (EASY PARK LTD), 20 January 1993 (20.01.93), column 7, line 58 - column 8, line 2	1,8,10,11, 14,27

SA 252505

INTERNATIONAL SEARCH REPORT

Information on patent family members

02/12/99

International application No. PCT/IB 99/01723

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0193320 A2	03/09/86	JP 61246887 A	04/11/86
WO 9830982 A1	16/07/98	AU 708082 B	29/07/99
		AU 1561397 A	11/08/97
		EP 0879205 A	25/11/98
		IL 125152 D	00/00/00
		NO 983110 A	31/08/98
		NO 993259 A	30/06/99
		PL 327972 A	04/01/99
		SE 510864 C	28/06/99
		SE 9700054 A	11/07/98
		US 5954294 A	21/09/99
US 5745052 A	28/04/98	GB 2302608 A,B	22/01/97
		GB 9612991 D	00/00/00
		JP 9007014 A	10/01/97
SE 507381 C2	25/05/98	AU 8754698 A	16/03/99
		SE 9702925 A	25/05/98
		WO 9910844 A	04/03/99
WO 9627170 A1	06/09/96	AU 4721396 A	18/09/96
		EP 0812448 A	17/12/97
		FI 102018 B	00/00/00
		FI 950918 A	29/08/96
		US 5905247 A	18/05/99
WO 9611453 A1	18/04/96	AU 3655095 A	02/05/96
		FI 944738 A	08/04/96
WO 9719568 A1	29/05/97	FI 970767 A	20/10/97
WO 9320539 A1	14/10/93	AU 3911993 A	08/11/93
		DE 69316888 D,T	03/09/98
		EP 0634039 A,B	18/01/95
		ES 2115056 T	16/06/98
		SE 506681 C	26/01/98
		SE 9201001 A	01/10/93
EP 0523742 A2	20/01/93	NONE	

PATENT COOPERATION TREATY

REC'D 13 DEC 2000
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

15

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
F14633/GV/VM/AM		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/IB99/01723	21/10/1999	23/10/1998
International Patent Classification (IPC) or national classification and IPC G07C1/30		
Applicant CASS, LESLIE, JOHN		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 24 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☒ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
25/04/2000	11.12.00
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Drysdale, N Telephone No. +49 89 2399 2435

Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/IB99/01723

I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).)*:
Description, pages:

1-17	as received on	13/11/2000	with letter of	09/11/2000

Claims, No.:

1-28	as received on	13/11/2000	with letter of	09/11/2000

Drawings, sheets:

1/6-6/6	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   - ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
   - ☐ the language of publication of the international application (under Rule 48.3(b)).
   - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   - ☐ contained in the international application in written form.
   - ☐ filed together with the international application in computer readable form.
   - ☐ furnished subsequently to this Authority in written form.
   - ☐ furnished subsequently to this Authority in computer readable form.
   - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
   - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   - ☐ the description, pages:
   - ☒ the claims, Nos.: 29-31

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-28
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-28
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-28
	No:	Claims	

2. Citations and explanations
   see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

V. Reasoned statement

2. Citations and explanations

1. Reference is, or has been, made to the following documents:

D1 = WO 98 30982 A
D2 = EP 0 193 320 A
D3 = US 5 745 052 A
D4 = WO 99 10844 A

Document D4 (not prepublished) claims the priority of the prepublished SE 507381 C2, cited in the international search report. After comparing document D4 with SE 507381 C2 the examiner assumes that the content of the two documents is the same.

2. The application includes five independent claims. Claims 1 & 2 concern a hand-held device for monitoring and identifying a vehicle in at least one parking zone comprising, inter alia, input means for inputting identification (ID) particulars of a vehicle into the device, means for communicating with a remote station at which reference ID particulars of vehicles are stored, timing and processor means for calculating a monetary amount due for parking, and means for receiving the monetary amount due. The inputted ID particulars are compared with the reference ID particulars and the device includes signal generation means for generating a warning signal depending on the result of the comparison. In claim 1 the reference ID particulars are communicated from the remote station to the device and the comparison is performed by the processor means in the device. In claim 2 the inputted ID particulars are transmitted to the remote station and the comparison is performed there, the result of the comparison being transmitted back to the device.

Although drafted as independent claims, claims 13 and 14 effectively concern a system comprising a remote station and at least one device according to claims 2 & 1 respectively. Claim 23 effectively concerns a method of monitoring and identifying a vehicle using a system according to claim 13.

3. Document D1, which is considered to represent the closest prior art, discloses a hand-held parking control unit (PCU) for monitoring parked vehicles. The PCU (1) comprises:

input means (optical image reproducing device (7); alternatively keyboard (15)) for feeding input identification (ID) particulars (vehicle registration number) of a vehicle in a parking zone into the PCU (page 6, line 35 to page 7, line 4; page 8, lines 25-27));

communication means (Fig. 2) for receiving reference ID particulars (including vehicle registration numbers) of vehicles, i.e. particulars of vehicles which have commenced a parking period but have not terminated parking, from a remote station (6) (page 7, lines 11-33);

storage means (4) for storing reference ID particulars (page 7, lines 4-9);

processor means (3) connected to the input means (7) and to the storage means (4), the processor means including comparator means for comparing the input ID particulars with the reference ID particulars (page 7, lines 4-9);

display means (2); and

signal generation means for selectively generating a warning signal (on display (2)) in response to the comparison (i.e. if the input vehicle ID is not found in the reference list, meaning that the vehicle is parked illegally) (page 9, lines 4-12).

4. The subject-matter of claims 1 and 2 is distinguished from the device of D1 in that, inter alia,

- the claimed devices further comprise timing means for timing the duration for which the vehicle is parked;
- the processor means calculates a monetary amount due for parking for that duration; and
- the devices also comprise monetary receiving means for receiving the monetary amount due.

These features allow the hand-held device to function also as a portable parking meter, which can be carried by a parking attendant or supervisor, thus making fixed pay stations unnecessary.

5. Of the documents cited in the international search report, all except D3 in fact disclose hand-held devices for use by parking attendants. However, all of these

devices are used either to detect violations of parking regulations, i.e. vehicles for which a prepaid parking time has been exceeded or for which no parking fee has been paid, or to register vehicle ID particulars and time parked for transmission to a central billing facility. None discloses or suggests the combination of a parking meter with a hand-portable monitoring device.

The subject-matter of claims 1 and 2 is therefore novel and involves an inventive step in the light of the available prior art (Art. 33(2) & (3) PCT).

The same conclusion therefore applies also to independent claims 13, 14 and 23 (see section 2 above) and also to claims 26 - 28, to the extent that their subject-matter is consistent with that of claims 1, 2, 13, 14 and 23.

6. The dependent claims define advantageous embodiments of the device and method of claims 1, 2, 13, 14 and 23. Their subject-matter is therefore also novel and inventive (Art. 33(2) & (3) PCT).

7. Industrial applicability (Article 33(4) PCT) is obvious for all claims.

VII. Certain defects

1. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

2. Claims 26 - 28 contain references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 :
G07C 1/30, G07F 17/24

A1

(11) International Publication Number: WO 00/25271

(43) International Publication Date: 4 May 2000 (04.05.00)

(21) International Application Number: PCT/IB99/01723

(22) International Filing Date: 21 October 1999 (21.10.99)

(30) Priority Data:
98/9689 23 October 1998 (23.10.98) ZA

(71)(72) Applicant and Inventor: CASS, Leslie, John [ZA/ZA]; 29 Zuid Street, 1055 Middelburg (ZA).

(74) Agent: VIVIER, Garth; 1140 Prospect Street, Hatfield, 0001 Pretoria (ZA).

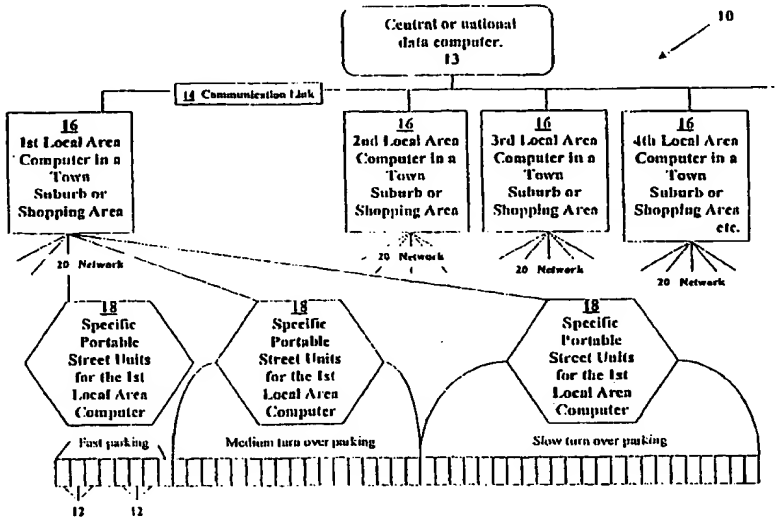
(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: VEHICLE IDENTIFICATION SYSTEM



(57) Abstract

The invention provides a device (18) for identifying a vehicle in at least one parking zone (12). The device (18) includes input means, communication means, storage means (22), processor means (28) and signal generation means. The input means is for feeding identification particulars of the vehicle in the parking zone (12) into the device (18). The communication means is for communicating reference identification particulars of vehicles from a remote station to the device (18). The processor means (28) includes comparator means for comparing the input identification particulars with the reference identification particulars stored in the storage means (22). The signal generation means generates a warning signal in response to the comparison. A system for identifying vehicles in a plurality of parking zones is also provided. The invention further provides a method of identifying a vehicle in a parking zone.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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VEHICLE IDENTIFICATION SYSTEM

THIS INVENTION relates to an identification system. In particular, it relates to a system for identifying vehicles in a plurality of parking zones and to a device for use in the system. It also relates to a method of identifying a vehicle in a parking zone.

According to the invention, there is provided a device for identifying a vehicle in at least one parking zone, the device including

input means for feeding input identification particulars of the vehicle in the parking zone into the device;

storage means for storing reference identification particulars of vehicles;

processor means connected to the input means and to the storage means, the processor means including comparator means for comparing the input identification particulars with the reference identification particulars; and

signal generation means for selectively generating a warning signal in response to the comparison.

The device may include communication means for communicating the reference identification particulars between the device and a remote station.

The device preferably includes timing means for timing the duration for which the vehicle is parked in the parking zone.

In certain embodiments, the processor means defines the timing means and is operable to calculate a monetary amount due for parking in the parking zone so that the device functions as a parking meter.

Further in accordance with the invention, there is provided a device for identifying a vehicle in at least one parking zone, the device including

input means for feeding input identification particulars of the vehicle in the parking zone into the device;

communication means for communicating the input identification particulars to a remote station at which reference identification particulars of vehicles are stored, the input identification particulars and the reference identification particulars being compared at the remote station thereby to identify the vehicle; and

timing means for timing the duration for which the vehicle is parked in the parking zone in order to calculate a monetary amount due for parking in the parking zone.

The device may include processor means which defines the timing means and is operable to calculate the monetary amount due so that the device functions as a parking meter.

The device typically includes display means for displaying the identification particulars and data on the monetary amount due. Accordingly, in the event of the particulars corresponding, the observed

particulars may be checked prior to generating the warning signal. The storage means may thus include data defining a rate payable by the driver, e.g. a rate per hour during the day, during the evening, and so on.

Preferably, the device includes monetary receiving means for receiving monetary value, e.g. from a credit card, smart card, or the like. The processor means may update the storage means thereby to keep a record of monetary value received e.g. cash received, credit card transactions, smart card transactions, or the like.

The device may include a printer for printing a hard-copy of selected data.

The input means may include a keypad via which the identification particulars of the vehicle and the parking zone are manually entered. In addition or instead, the input means may include a reader capable of reading in a wireless fashion a tag device in or on the vehicle, the tag carrying the said identification particulars of the vehicle. The identification particulars are typically particulars observed by a supervisor and fed into the device.

The communication means is typically a wireless communication link.

In other embodiments, the communication channel may be a hardwired link, an RF link, or any other conventional communication link.

In certain embodiments, the device includes enabling means for selectively enabling the device. The enabling means may be defined by processor means and the input means in such a fashion so that upon entry of a correct PIN number the device is enabled. The PIN code may be communicated between the base station and the remote unit.

The reference identification particulars are typically reference identification particulars of stolen vehicles. Accordingly, the reference particulars may be the make, colour, registration number or the like of the vehicle.

The device may include a housing for housing its various components which is shaped and dimensioned so that it can be hand-held. The housing is preferably waterproof.

Further in accordance with the invention, there is provided a system for identifying vehicles in a plurality of parking zones, the system including

a remote station at which reference identification particulars of vehicles are stored; and

at least one device for identifying a vehicle parked in one of the plurality of parking zones with which the device is associated, the device including

input means for feeding input identification particulars of a vehicle in the parking zone into the device;

communication means for communicating the input identification particulars to the remote station; and

timing means for timing the duration for which the vehicle is parked in the parking zone in order to calculate a monetary amount

due for parking in the parking zone, the input identification particulars and the reference identification particulars being compared at the remote station and a warning signal selectively being generated in response to the comparison.

A wireless communication means may be provided for communicating the identification particulars to the remote station.

Further in accordance with the invention, there is provided a system for identifying vehicles in a plurality of parking zones, the system including

a remote station at which reference identification particulars of vehicles are stored;

at least one device for identifying a vehicle parked in the parking zone with which the device is associated, the device including

input means for feeding input identification particulars of a vehicle in the parking zone into the device;

communication means for receiving the reference identification particulars from the remote station;

storage means for storing the reference identification particulars of vehicles;

processor means connected to the input means and the storage means, the processor means including comparator means for comparing the input identification particulars with the reference identification particulars; and

signal generation means for selectively generating a warning signal in response to the comparison.

The system may include timing means for timing the duration for which the vehicle is parked in the parking zone, the processor means defining the timing means and being operable to calculate a monetary amount due for parking in the parking zone.

The input means may include a reader capable of reading a tag device hidden in or on the vehicle in a wireless fashion, the tag carrying the said identification particulars of the vehicle.

In certain embodiments, the system includes a control centre and plurality of remote stations at remote locations with parking zones, each remote station being in communication with the control centre via a telecommunication network to receive reference identification particulars and each device being in wireless communication with an associated remote station.

The telecommunication network is typically a cellular telephone network. Accordingly, the reference identification particulars may be downloaded by means of SMS messages.

In certain embodiments, the telecommunication network is the Internet.

The remote station may include alternate communication means for communicating with other databases. For example, the base station may include a further communication interface arranged to interface with NATIS (National Traffic Information Service). The interface may be configured to communicate via the Internet to NATIS, law enforcement authorities, or the like. A plurality of regional base

stations may be provided which are each linked via a communication network, e.g. the Internet, to a national control centre.

Still further in accordance with the invention, there is provided a method of identifying a vehicle in a parking zone, the method including

feeding identification particulars into a device which has access to a database which includes reference identification particulars of vehicles;

comparing identification particulars of the vehicle in the parking zone with the reference identification particulars; and

selectively generating a warning signal in response to the comparison.

The reference identification particulars are typically the identification particulars of stolen vehicles.

The database may be provided in the device and the method includes updating the database periodically. The method may include communicating the identification particulars in a wireless fashion from the device to a remote station at which the database is located.

The invention is now described, by way of example, with reference to the accompanying diagrammatic drawings.

In the drawings,

Figure 1 shows a system or installation, in accordance with the invention, for monitoring the use of zones or parking bays;

Figure 2 shows a schematic representation of a device or remote unit, also in accordance with the invention, of the installation of Figure 1;

Figure 3 shows a schematic block diagram of the remote unit of Figure 2;

Figure 4 shows a schematic circuit diagram of the remote unit of Figure 3;

Figure 5 shows a schematic flow chart of information in the system or installation; and

Figure 6 shows the device or remote unit installed at a parking area including a plurality of parking zones or bays.

Referring to the drawings, reference numeral 10 generally indicates an installation or system, in accordance with the invention, for monitoring the use of a plurality of parking zones or bays 12 (only a few of which are shown and referenced in the drawings). The installation 10 includes a national control centre 13 which is connected via a communication link 14, e.g. the Internet, to a plurality of base stations 16 (only a few of which are shown in the drawings) which are located in various parts of the country e.g. in various suburbs, shopping centres, or the like. Each base station 16 is remotely connected to a plurality of portable remote units 18 via a conventional cellular telephone network 20. The parking bays 12 are arranged in groups, each group being associated with a specific portable remote unit 18 which is allocated to a supervisor (not shown) who, with the aid of the portable remote unit 18, monitors the use of the parking bays 12 as described in more detail below. In other embodiments of the invention, the remote units 18 communicate with the base stations 16 using conventional RF transceivers (not shown).

The national control centre 13 is linked to NATIS via a digital communication link, e.g. the Internet, so that reference identification particulars such as the model, make, colour, or registration particulars of vehicles, e.g. stolen vehicles, may be fed into its internal storage means. The national control centre 13 thus includes comprehensive details on vehicles such as stolen vehicles which may then be communicated via the communication link 14 to each base station 16 where the particulars are stored in its internal memory. Each remote unit 18 includes a memory 22 (see Figures 2 and 3) in which a database of reference identification particulars of vehicles is stored. The reference identification particulars are downloaded from the base station 16 via the conventional cellular telephone network 20 in the form of SMS (Short Message System) messages. During the course of the day if further reference identification particulars e.g. particulars of a vehicle which has been stolen during the course of the day are required, these particulars may be instantaneously downloaded into the memory 22 via the network 20.

The portable remote units 18 include a housing which is water-proof and which is shaped and dimensioned to define a hand-held unit which includes its various components. The remote unit 18 includes a display 24 (see Figures 2 to 4) for displaying various information to the supervisor, as described in more detail below. The remote unit 18 further includes input means in the form of a keypad 26, a warning LED 30, a receipt printer 32, a power supply unit 34 which includes a lithium re-chargeable battery for powering the remote unit, a cellular interface 36 which is operable to receive and transmit data via the conventional cellular telephone network 20, and reading means for reading monetary value from a smart card, a credit card, or the like.

When a driver of a vehicle requiring use of a particular parking zone or bay has parked his car, the supervisor of the group of parking bays in which the specific bay is located approaches the vehicle and, via the keypad 26 of his remote unit 18, enters observed identification particulars of the vehicle into the remote unit 18. The observed identification particulars are typically the registration number of the vehicle and the processor unit 28 then access the memory 22 in which a database of vehicle particulars are stored. Reference particulars corresponding to the registration number are then retrieved from the memory 22 and displayed on the display 24. The reference particulars typically include the make, colour, model etc. of the vehicle and the supervisor then visually compares these particulars with the vehicle parked in the parking bay. In the event of there being a mismatch between the reference particulars and the observed particulars, the supervisor may then alert the relevant authorities by communicating a warning signal to the base station 16 associated with the particular remote unit 18.

Further, the memory 22 includes comprehensive details on vehicles which are being illegally used e.g. stolen vehicles or the like. The processor unit 28 thus compares the registration number which has been fed in via the keypad 26 with a database of stolen vehicles in the memory 22 and, if the comparison is positive, the processor unit 28 activates the warning LED 30 thereby to alert the supervisor. The supervisor may then double check that the vehicle registration number which he has fed in via the keypad 26 is correct by comparing the observed registration number of the vehicle with the particulars entered in via the keypad 26 and which are displayed on the display 24. If the correct registration number has in fact been entered, the warning signal

may be either automatically, or in response to an action of the supervisor, be transmitted via the cellular interface 36 to the associated base station 16. The associated base station 16 may then alert the relevant authorities e.g. the police or the like. It is however to be appreciated that, instead of the cellular communication link 20, a radio link, a wired link via a conventional hardwired telephone system, an Internet link or the like may be used to communicate between the base station 16 and the remote unit 18 or used to communicate between the base stations 16 and the control centre 13.

In addition to entering the vehicle registration number into the remote unit 18, each parking bay 12 associated with the specific remote unit 18 is numbered and an identification number of the specific parking bay is also entered into the remote unit 18 via the keypad 26. Once parking of the vehicle in the specific parking bay has been authorised, timing means defined by the processor unit 28 for timing the duration of the vehicle in the parking bay is then initialised. The processor unit 28 retrieves reference data from the memory 22 which may be selectively downloaded into the memory 22 from the base station 16. The processor unit 28 then calculates the rate of charge dependent on the time of day, day of the week, class of parking area, or the like.

The display 24 is typically a ten line 30 digit LCD display which, under control of the processor unit 28, displays the registration number of the vehicle, the number of the parking bay in which the vehicle is parked, the time and date, the rate per hour for use of the parking bay, or the like. Once the supervisor has received payment for use of the parking bay and entered payment details into the remote unit

18 via the key pad 26, the display may confirm payment by displaying "Thank you. Payment made before departure. Pay only the amount on the screen". It is to be appreciated however that any other messages may be displayed on the display 24. The processor unit 28 may thus keep financial records of the financial transactions that take place during the course of the day and may then transmit comprehensive details to its associated base station 16. The base station 16 also includes processor means for generating statistics on the use of the various parking bays, running accounts on the total amount of cash received or the like.

In the event of the user not paying the supervisor the required amount, the remote unit 18 may communicate the reference particulars of the vehicle to the base station 16 which may then notify the relevant local authorities in order to take legal action. In order to facilitate payment to the supervisor, the reading means 38 is provided for receiving smart cards, credit cards, or the like. A facility is typically provided in the remote unit 18 to provide benefits for regular or monthly parking users. In certain embodiments, the remote unit 18 includes a transponder interrogator for interrogating an electronic tag provided on the vehicle. The electronic tag includes the identification particulars of the vehicle. In other embodiments, the electronic tag may be provided in the form of a key-ring.

The remote unit 18 is arranged so that the user may prepay for use of the bay for a specific period of time or pay the supervisor upon returning to collect the vehicle. In the event of the user prepaying the supervisor, the printer 32 may print the appropriate receipt in advance. However, in the event of the user only paying the supervisor upon returning to the vehicle, the identification number of the parking bay is

entered into the portable unit 18 which then displays the registration number of the vehicle presently parked in the bay. The processor unit 28 then calculates the amount due and display 24 then indicates that this amount must be paid directly to the attendant. It is to be appreciated that they display 24 may then further display various other messages such as "Not paid yet", "If not paid legal action will follow from the local authority" or the like.

In order to avoid unauthorised use of each remote unit 18, each supervisor is furnished with a unique identification code or PIN number which is fed into the processor unit 28 via the keypad 26. If the PIN number matches a reference PIN number in the memory 22 the remote unit 18 is activated or enabled. The reference PIN number may be downloaded from the base station 16 via the network 20.

Figure 3 of the drawings shows an embodiment of electronic circuitry of the remote unit 18. The unit 18 includes a conventional cellular telephone antenna 40 which is connected via line 42 to a standard cell phone receiver including a conventional pre-amp, local oscillator, mixers, IF amplifiers and detectors. The receiver 44 is coupled to a detector/decoder 46 which, in turn, is connected to the memory 22 and to the display 24 and a logic amplifier and digital interface. The unit 18 includes a PC compatible interface 48 for connection to computing facilities at the base station 16. Further, a transmitting arrangement 50 and a standard cellular telephone transmitter 52 are provided for communicating with the base station 16. A typical circuit diagram of the device or remote unit 18 is shown in Figure 4.

In the embodiment of the invention shown in Figures 1 to 4 of the drawings, the reference identification particulars are downloaded and stored in the remote unit 18. However, in other embodiments of the invention, as shown in Figure 5, the reference identification particulars are stored in the remote or base stations 16. In this embodiment, the vehicle identification particulars are fed into the device or remote unit 18 either manually or remotely by means of an electronic tag as shown in block 80 in Figure 5. The device 18 then communicates the identification particulars via its transmitter arrangement 50 to an associated base station 16 which is part of a local area computer as shown at block 82. At the base station, the reference identification particulars are compared with the identification particulars fed into the device 18 and, if the vehicle particulars match those of a stolen vehicle, as shown at block 84, a link to the relevant authorities is provided as shown at block 86. The base station 16 may then retrieve reference vehicle particulars such as the colour, the make, or model of the vehicle and communicate them back to the device or remote unit 18 whereupon the data is displayed on its display 24. As shown at block 88, the supervisor may then compare the identification particulars received from the base station 16 in order to ascertain whether or not erroneous data has been entered into the remote unit 18. If there is a mismatch of data, the remote unit 18 may communicate a warning signal to the relevant authorities as shown by line 90.

Once the relevant identification particulars have been entered by the supervisor into the remote unit 18, the motorist can then go shopping whilst the car is being supervised by the supervisor. Upon entry of the vehicle identification particulars into the remote unit 18, a timer is set to time the duration for which the vehicle will be parked in

the parking zone 12 so that an appropriate charge may be calculated upon return of the motorist. As shown at block 92, once the motorist returns to the parking bay or zone 12 data on the relevant parking bay is entered into the remote unit 18 which then calculates a monetary amount due for use of the parking bay. As shown at block 94, all payments received are communicated to the remote stations 16 for accounting purposes. Summaries of all financial transactions may then be communicated to the control centre 13 as generally indicated by block 96.

Referring in particular to Figure 6 of the drawings, reference numeral 100 generally indicates the arrangement of parking zones 12 proximate a roadway 102. As mentioned above, each vehicle may include an electronic tag which contains the identification particulars of the vehicle. Accordingly, a remote interrogator 104 may be located proximate the parking zone 12 to read the electronic tag provided on the vehicle. In addition or instead, a conventional automated monetary value receiving device is provided.

The installation or system 10 provides a facility at the national control centre 13 to monitor use of a legal vehicle registration number at different locations or areas throughout the country. In particular, similar vehicle registrations are monitored and time durations between monitoring of the same registration number are determined to see if the distance travelled by the vehicle is feasible. If it appears that duplicate registration numbers exist, the appropriate authorities may be contacted for legal action.

The inventor believes that the invention, as illustrated, provides an enhanced installation 10 for monitoring the use of and identifying stolen vehicles. As the registration number of the vehicle requiring use of the parking bays is entered into the remote unit 18, each time a vehicle is parked the registration particulars may be compared with a reference database to identify the illegal use of vehicles.

CLAIMS:

1. A device for identifying a vehicle in at least one parking zone, the device including

input means for feeding input identification particulars of the vehicle in the parking zone into the device;

communication means for communicating reference identification particulars of vehicles from a remote station to the device;

storage means for storing reference identification particulars;

processor means connected to the input means and to the storage means, the processor means including comparator means for comparing the input identification particulars with the reference identification particulars; and

signal generation means for selectively generating a warning signal in response to the comparison.

2. A device as claimed in Claim 1, which includes timing means for timing the duration for which the vehicle is parked in the parking zone.

3. A device as claimed in Claim 2, in which the processor means defines the timing means and is operable to calculate a monetary amount due for parking in the parking zone so that the device functions as a parking meter.

4. A device for identifying a vehicle in at least one parking zone, the device including

input means for feeding input identification particulars of the vehicle in the parking zone into the device;

communication means for communicating the input identification particulars to a remote station at which reference identification particulars of vehicles are stored, the input identification particulars and the reference identification particulars being compared at the remote station thereby to identify the vehicle; and

timing means for timing the duration for which the vehicle is parked in the parking zone in order to calculate a monetary amount due for parking in the parking zone.

5. A device as claimed in Claim 4, which includes processor means which defines the timing means and is operable to calculate the monetary amount due so that the device functions as a parking meter.

6. A device as claimed in Claim 5, which includes display means for displaying the identification particulars and data on the monetary amount due.

7. A device as claimed in any one of the preceding claims, which includes monetary receiving means for receiving monetary value.

8. A device as claimed in any one of the preceding claims, which includes a printer for printing a hard-copy of selected data.

9. A device as claimed in any one of the preceding claims, in which the input means includes a keypad via which the identification particulars of the vehicle and the parking zone are manually entered.

10. A device as claimed in any one of the preceding claims, in which the input means includes a reader capable of reading in a wireless fashion a tag device in or on the vehicle, the tag carrying the said identification particulars of the vehicle.

11. A device as claimed in any one of the preceding claims, in which the communication means is a wireless communication link.

12. A device as claimed in any one of the preceding claims, which includes enabling means for selectively enabling the device.

13. A device as claimed in Claim 12, in which the enabling means is defined by processor means and the input means in such a fashion so that upon entry of a correct PIN number the device is enabled.

14. A device as claimed in any one of the preceding claims, in which the reference identification particulars are reference identification particulars of stolen vehicles.

15. A device as claimed in any one of the preceding claims, which includes a housing for housing its various components which is shaped and dimensioned so that it can be hand-held.

16. A system for identifying vehicles in a plurality of parking zones, the system including

a remote station at which reference identification particulars of vehicles are stored; and

at least one device for identifying a vehicle parked in one of a plurality of parking zones with which the device is associated, the device including

input means for feeding input identification particulars of a vehicle in the parking zone into the device;

communication means for communicating the input identification particulars to the remote station; and

timing means for timing the duration for which the vehicle is parked in the parking zone in order to calculate a monetary amount due for parking in the parking zone, the input identification particulars and the reference identification particulars being compared at the remote station and a warning signal selectively being generated in response to the comparison.

17. A system as claimed in Claim 16, in which a wireless communication means is provided for communicating the input identification particulars to the remote station.

18. A system for identifying vehicles in a plurality of parking zones, the system including

a remote station at which reference identification particulars of vehicles are stored;

at least one device for identifying a vehicle parked in one of a plurality of parking zones with which the device is associated, the device including

input means for feeding input identification particulars of a vehicle in the parking zone into the device;

communication means for receiving the reference identification particulars from the remote station;

storage means for storing the reference identification particulars of vehicles;

processor means connected to the input means and the storage means, the processor means including comparator means for comparing the input identification particulars with the reference identification particulars; and

signal generating means for selectively generating a warning signal in response to the comparison.

19. A system as claimed in Claim 18, which includes timing means for timing the duration for which the vehicle is parked in the parking zone, the processor means defining the timing means and being operable to calculate a monetary amount due for parking in the parking zone.

20. A system as claimed in any one of the preceding claims 16 to 19 inclusive, in which the input means includes a reader capable of reading a tag device hidden in or on the vehicle in a wireless fashion, the tag carrying the said identification particulars of the vehicle.

21. A system as claimed in any one of the preceding claims 16 to 20 inclusive, which includes a control centre and plurality of remote stations at remote locations with parking zones, each remote station being in communication with the control centre via a telecommunication network to receive reference identification particulars and each device being in wireless communication with an associated remote station.

22. A system as claimed in Claim 21, in which the telecommunication network is a cellular telephone network.

23. A system as claimed in Claim 22, in which the reference identification particulars are downloaded by means of SMS messages.

24. A system as claimed in any one of the preceding claims 21 to 23 inclusive, in which the telecommunication network is the Internet.

25. A system as claimed in any one of the preceding claims 16 to 24 inclusive, in which the remote station includes alternate communication means for communicating with other databases.

26. A method of identifying a vehicle in a parking zone, the method including

feeding identification particulars into a device of the vehicle in the parking zone;

transmitting the identification particulars to a remote station;

comparing identification particulars of the vehicle in the parking zone with the reference identification particulars at the remote station; and

selectively generating a warning signal in response to the comparison.

27. A method as claimed in Claim 26, in which the reference identification particulars are the identification particulars of stolen vehicles.

28. A method as claimed in Claim 26 or Claim 27, in which the database is provided in the device and the method includes updating the database periodically in a wireless fashion.

29. A device, substantially as herein described and illustrated.

30. A system, substantially as herein described and illustrated.

31. A method, substantially as herein described and illustrated.

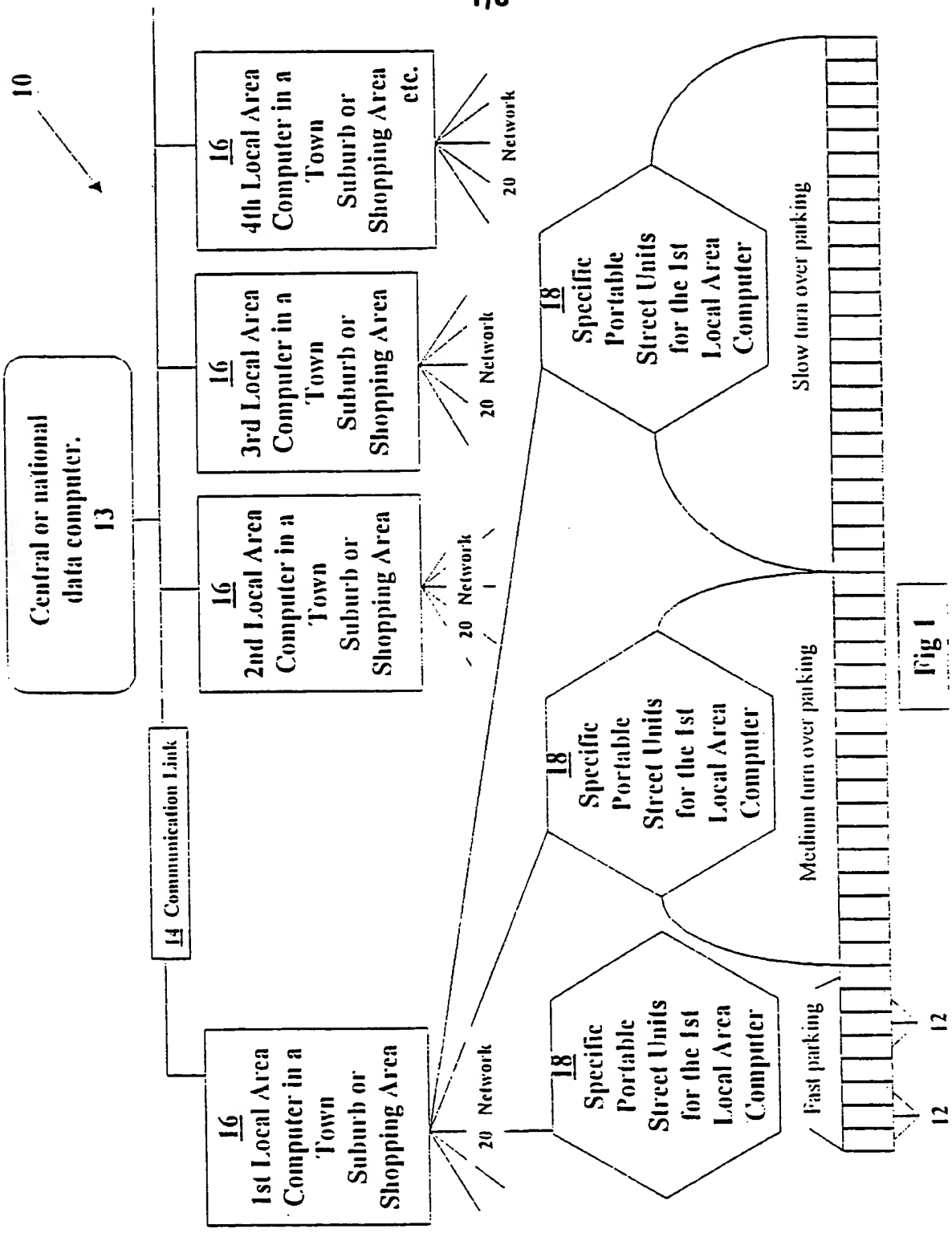
10
Central or national data computer. 13
14 Communication Link
16 1st Local Area Computer in a Town Suburb or Shopping Area
16 2nd Local Area Computer in a Town Suburb or Shopping Area
16 3rd Local Area Computer in a Town Suburb or Shopping Area
16 4th Local Area Computer in a Town Suburb or Shopping Area etc.
20 Network
20 Network
20 Network
20 Network
18 Specific Portable Street Units for the 1st Local Area Computer
18 Specific Portable Street Units for the 1st Local Area Computer
18 Specific Portable Street Units for the 1st Local Area Computer
Slow turn over parking
Medium turn over parking
Fast parking
12
12
12

Fig 1

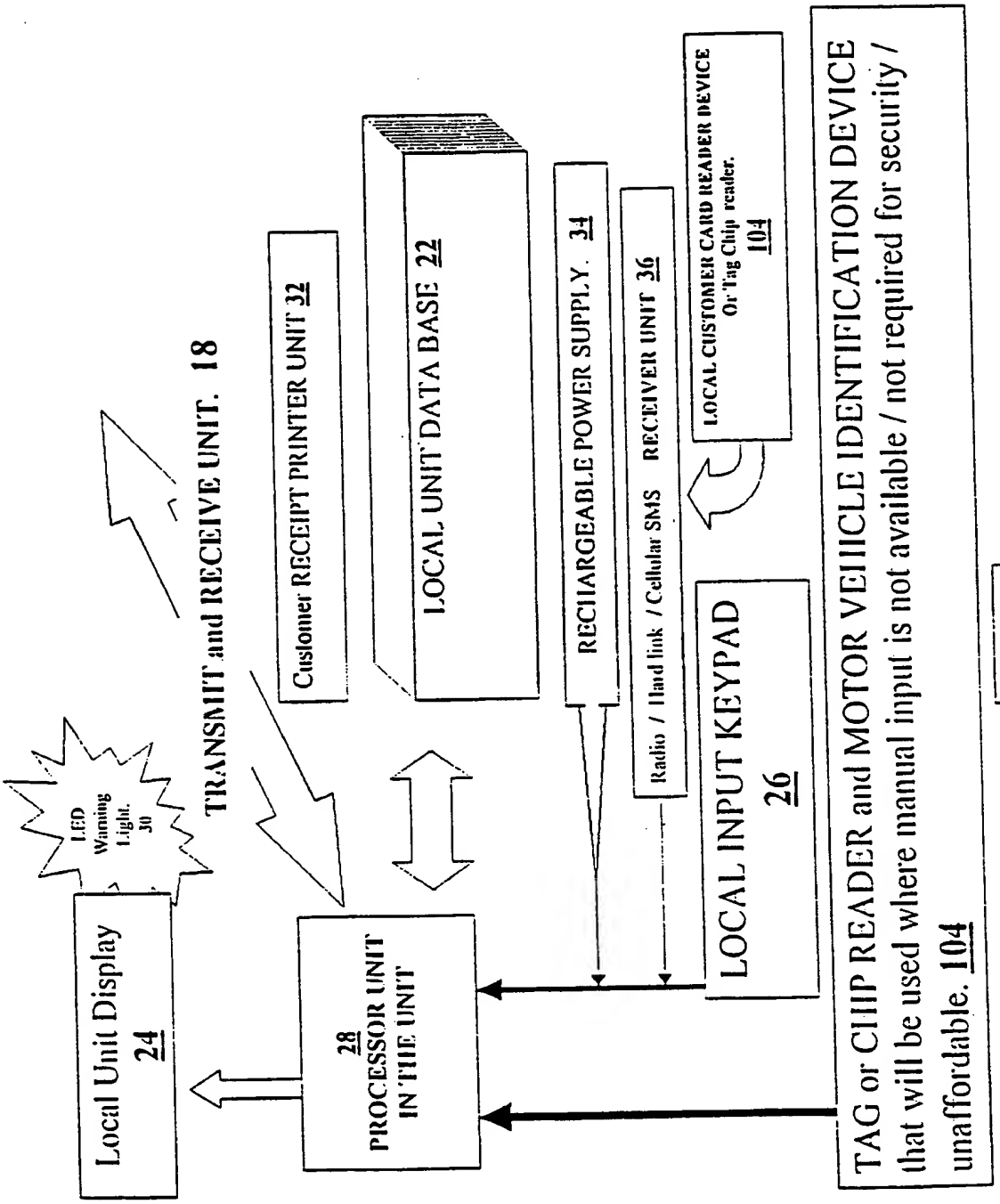
TRANSMIT and RECEIVE UNIT. 18
LED Warning Light. 30
Local Unit Display 24
28 PROCESSOR UNIT IN THE UNIT
Customer RECEIPT PRINTER UNIT 32
LOCAL UNIT DATA BASE 22
RECHARGEABLE POWER SUPPLY. 34
Radio / Hand link / Cellular SMS RECEIVER UNIT 36
LOCAL CUSTOMER CARD READER DEVICE Or Tag Chip reader. 104
LOCAL INPUT KEYPAD 26
TAG or CHIP READER and MOTOR VEHICLE IDENTIFICATION DEVICE that will be used where manual input is not available / not required for security / unaffordable. 104

Fig 2

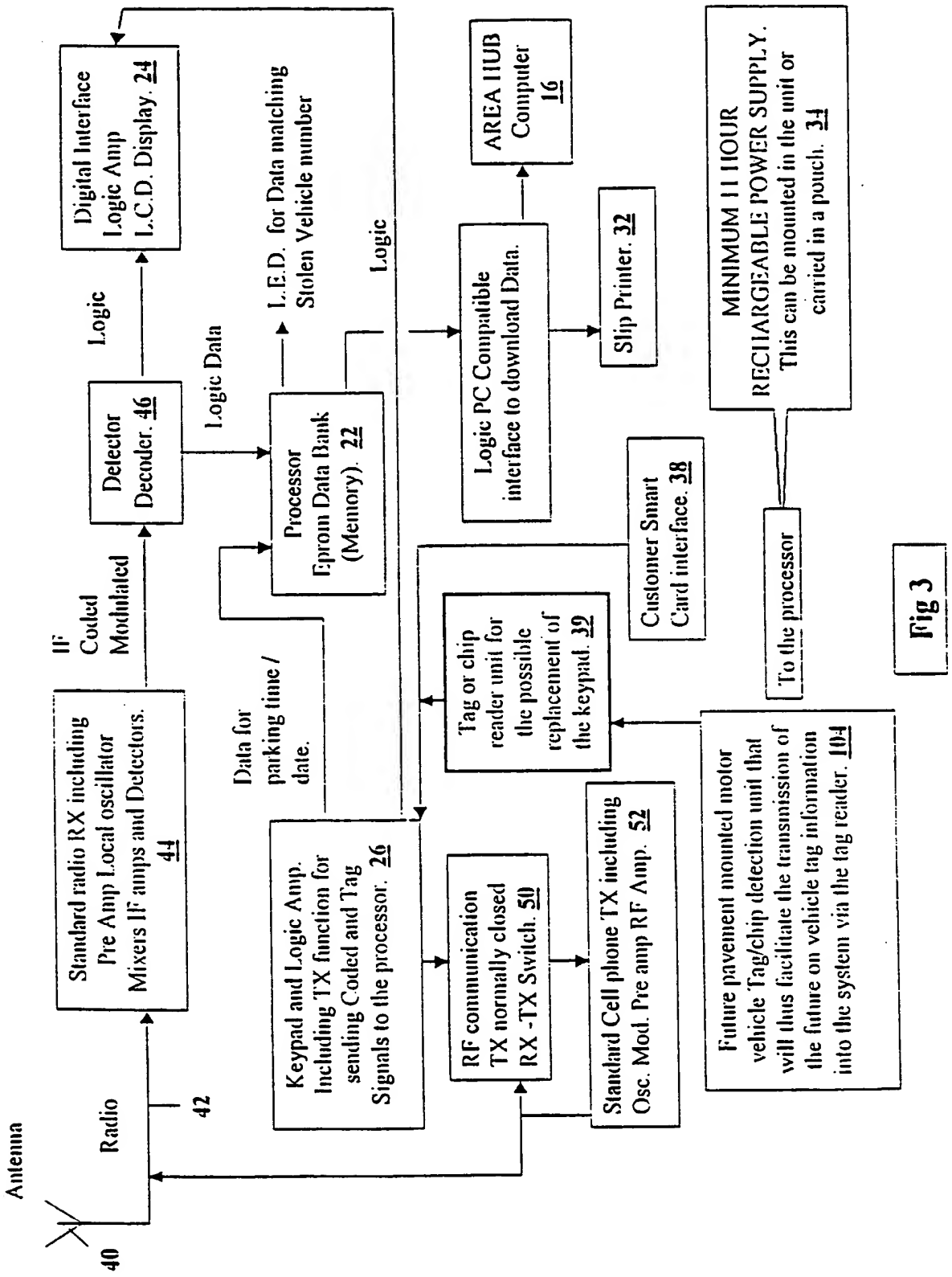
Digital Interface Logic Amp L.C.D. Display. 24
Logic
Detector Decoder. 46
Logic Data
L.E.D. for Data matching Stolen Vehicle number
Logic
AREA IIUB Computer 16
MINIMUM 11 HOUR RECHARGEABLE POWER SUPPLY. This can be mounted in the unit or carried in a pouch. 34
IF Coded Modulated
Processor Eprom Data Bank (Memory). 22
Logic PC Compatible interface to download Data.
Slip Printer. 32
Data for parking time / date.
Customer Smart Card interface. 38
Tag or chip reader unit for the possible replacement of the keypad. 39
To the processor
Standard radio RX including Pre Amp Local oscillator Mixers IF amps and Detectors. 44
Keypad and Logic Amp. Including TX function for sending Coded and Tag Signals to the processor. 26
RF communication TX normally closed RX -TX Switch. 50
Standard Cell phone TX including Osc. Mod. Pre amp RF Amp. 52
Future pavement mounted motor vehicle Tag/chip detection unit that will thus facilitate the transmission of the future on vehicle tag information into the system via the tag reader. 104
Antenna
Radio
42
40

Fig 3

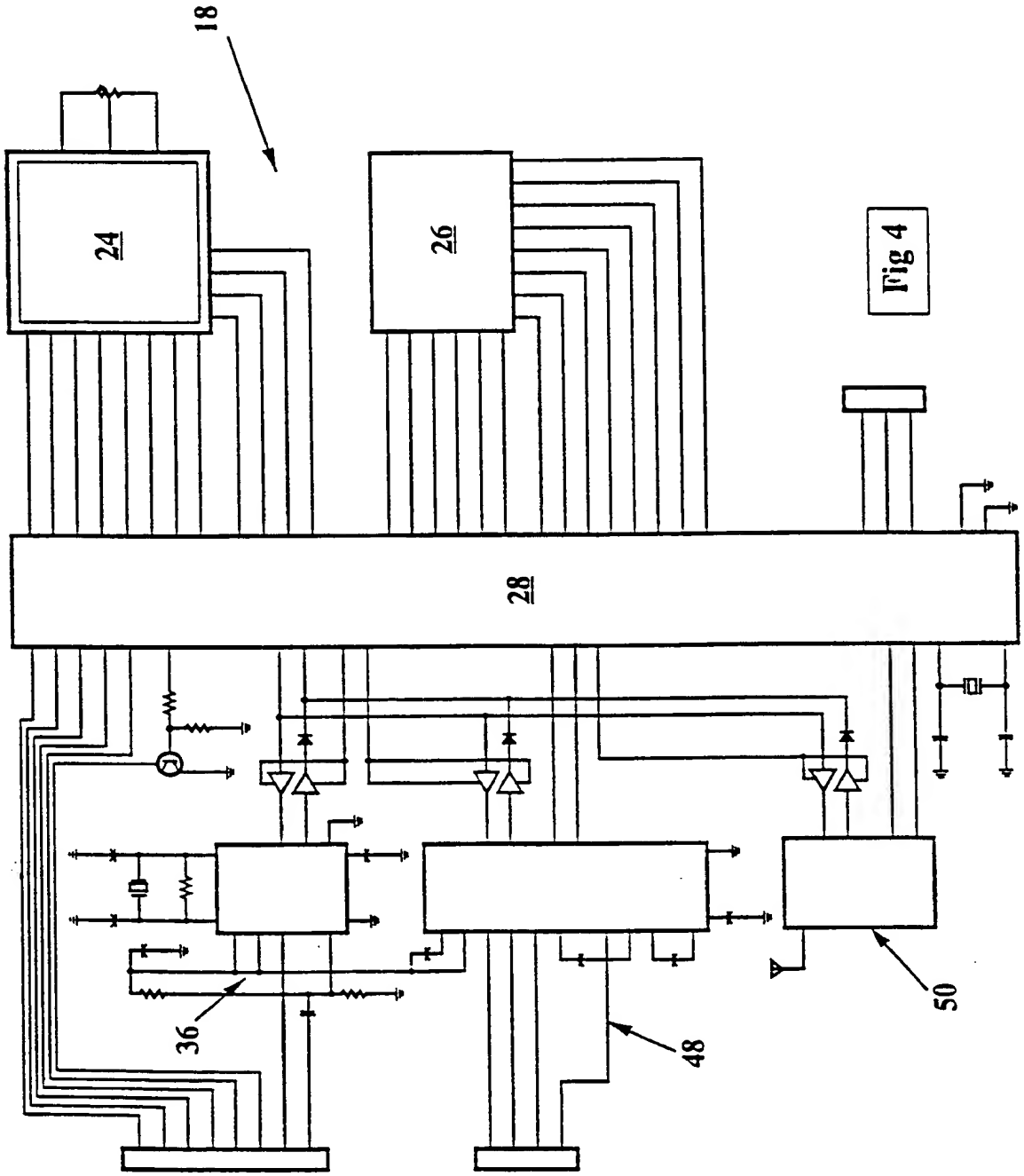

Fig 4

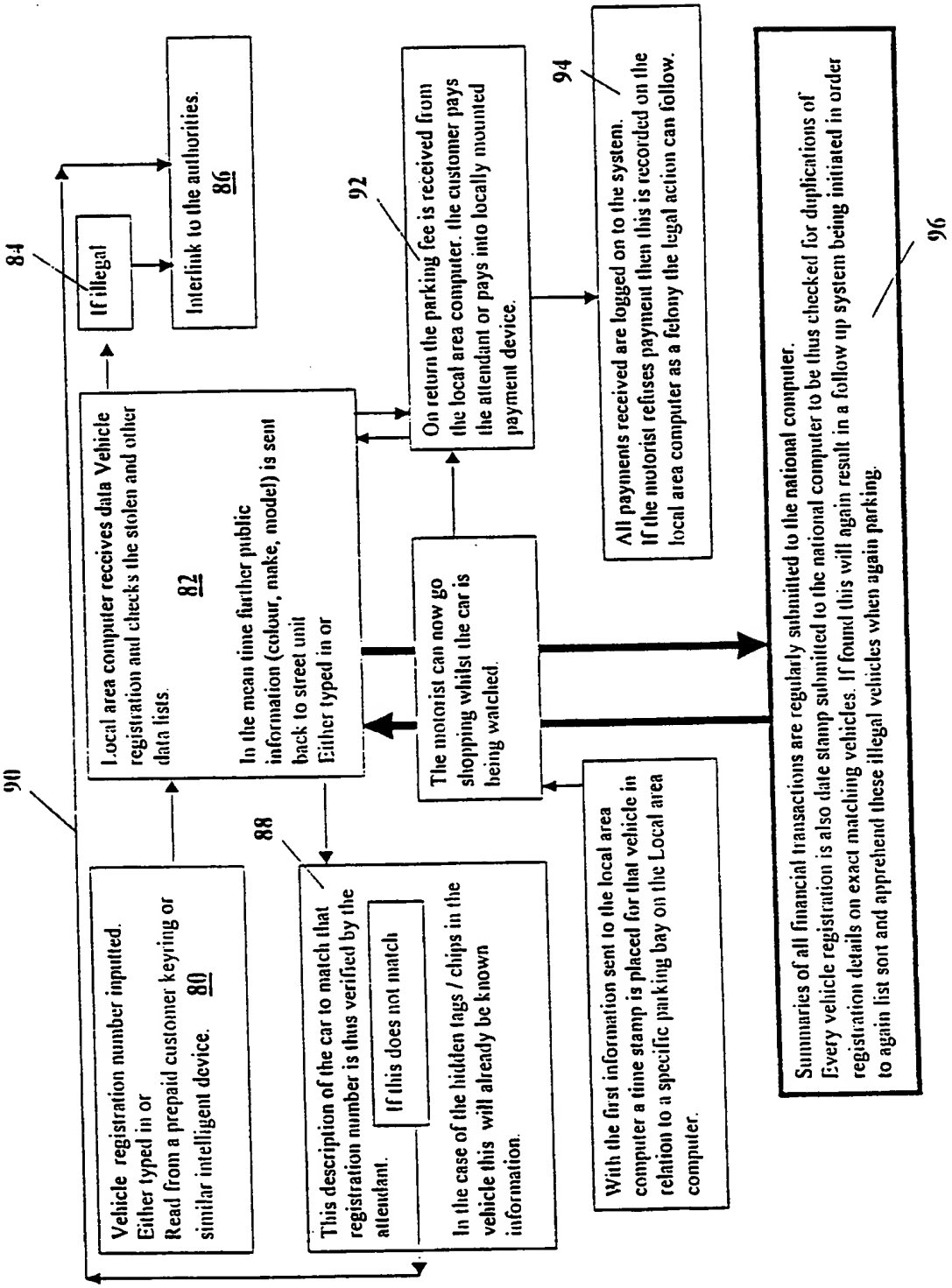
90
Vehicle registration number inputted.
Either typed in or
Read from a prepaid customer keyring or similar intelligent device. 80
88
This description of the car to match that registration number is thus verified by the attendant.
If this does not match
In the case of the hidden tags / chips in the vehicle this will already be known information.
Local area computer receives data Vehicle registration and checks the stolen and other data lists. 82
In the mean time further public information (colour, make, model) is sent back to street unit
Either typed in or
84
If illegal
Interlink to the authorities. 86
92
On return the parking fee is received from the local area computer. the customer pays the attendant or pays into locally mounted payment device.
The motorist can now go shopping whilst the car is being watched.
With the first information sent to the local area computer a time stamp is placed for that vehicle in relation to a specific parking bay on the Local area computer.
94
All payments received are logged on to the system.
If the motorist refuses payment then this is recorded on the local area computer as a felony the legal action can follow.
Summaries of all financial transactions are regularly submitted to the national computer.
Every vehicle registration is also date stamp submitted to the national computer to be thus checked for duplications of registration details on exact matching vehicles. If found this will again result in a follow up system being initiated in order to again list sort and apprehend these illegal vehicles when again parking.
96

Fig 5

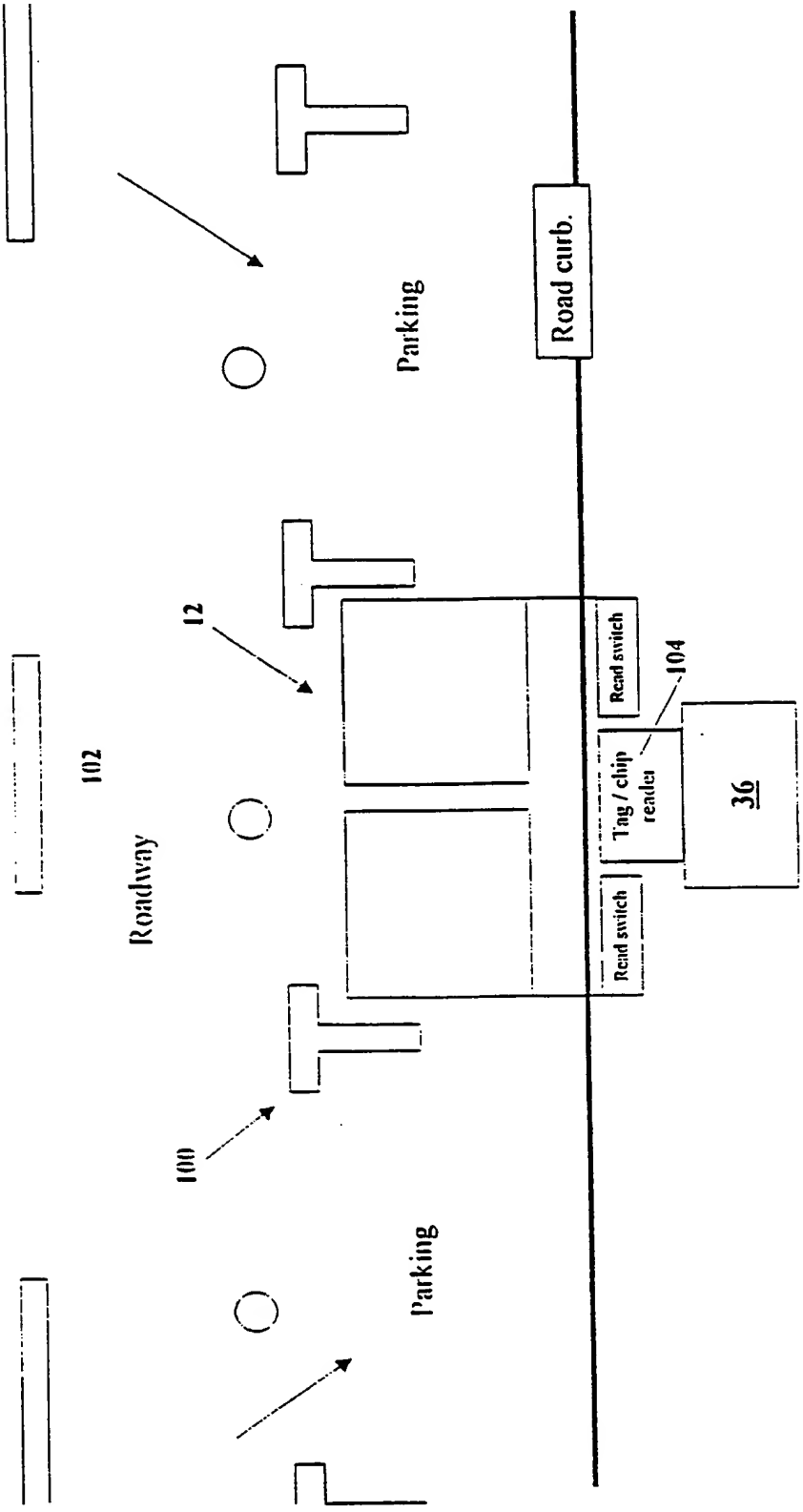
Road curb.
Parking
12
Read switch
104
Tag / chip reader
36
Read switch
102
Roadway
100
Parking

Fig 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 99/01723

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: G07C 1/30, G07F 17/24
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: G07C, G07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0193320 A2 (ELECSELL LIMITED), 3 Sept 1986 (03.09.86), whole document, see especially figure 3 and page 17 line 12 - line 14	1-13,15-21
X	WO 9830982 A1 (MODUL-SYSTEM SWEDEN AB), 16 July 1998 (16.07.98), whole document	1,8,9,11-13, 15,18,20-22, 25
X	US 5745052 A (MATSUYAMA ET AL), 28 April 1998 (28.04.98), column 6, line 8 - line 10, abstract	4-8,14,16, 20,25-27

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
25 January 2000	21 02 2000
Name and mailing address of the International Searching Authority European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel(+31-70)340-2040. Tx 31 651 epo nl. Fax(+31-70)340-3016	Authorized officer Gunilla Jonsson / JA A Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 99/01723

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SE 507381 C2 (ROLF RISING), 25 May 1998 (25.05.98), page 5, line 17 - line 27	1,10-13,15, 18,20-26,28
X	WO 9627170 A1 (PARKIT OY), 6 Sept 1996 (06.09.96), page 7, line 30 - page 9, line 15	4-6,8-11, 15-17,21-23, 26,28
X	WO 9611453 A1 (PARKIT OY), 18 April 1996 (18.04.96), page 4, line 15 - page 5, line 19, figure 2	1,4,9,11-13, 15-18,21,22, 26,28
A	WO 9719568 A1 (VAZVAN, BEHRUZ), 29 May 1997 (29.05.97), page 2, line 26 - line 35	1,18,21-23, 26,28
A	WO 9320539 A1 (JONSSON, TOMMY), 14 October 1993 (14.10.93), page 4, line 21 - line 25	25
A	EP 0523742 A2 (EASY PARK LTD), 20 January 1993 (20.01.93), column 7, line 58 - column 8, line 2	1,8,10,11, 14,27

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 99/01723

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 29-31
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
The claims 29-31 are not clear. See PCT article 6.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/IB 99/01723

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EP 0523742 A2	20/01/93	NONE	